



Serial No 10-774,721.txt
SEQUENCE LISTING

<110> JOCKERS, Ralf
COUTURIER, Cyril
UHLMANN, Eugen

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<140> 10/774,721

<141> 2004-02-09

<150> 60/461,005

<151> 2003-04-07

<150> 0301543

<151> 2003-02-10

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<170> PatentIn version 3.1

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Gly Leu Thr Phe Leu Met Leu Gly Cys Ala Leu Glu Asp Tyr Gly Val
20 25 30

tac tgg ccc tta ttc gtc ctg att ttc cac gcc atc tcc ccc atc ccc 144
Tyr Trp Pro Leu Phe Val Leu Ile Phe His Ala Ile Ser Pro Ile Pro
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gcc tgt cgg gaa ctg gca tat ttc ttc act act gga att gtt gtt tct Ala Cys Arg Glu Leu Ala Tyr Phe Phe Thr Thr Gly Ile Val Val Ser 65 70 75 80			240
gcc ttt gga ttt cct gtt att ctt gct cgt gtg gct gtg atc aaa tgg Ala Phe Gly Phe Pro Val Ile Leu Ala Arg Val Ala Val Ile Lys Trp 85 90 95			288
gga gcc tgc ggc ctt gtg ttg gca ggc aat gca gtc att ttc ctt aca Gly Ala Cys Gly Leu Val Leu Ala Gly Asn Ala Val Ile Phe Leu Thr 100 105 110			336
att caa ggg ttt ttc ctt ata ttt gga aga gga gat gat ttt agc tgg Ile Gln Gly Phe Phe Leu Ile Phe Gly Arg Gly Asp Asp Phe Ser Trp 115 120 125			384
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His Phe Ile Ala Lys Arg Val Thr Tyr Asp Ser Asp Ala Thr Ser Ser 50 55 60
Ala Cys Arg Glu Leu Ala Tyr Phe Phe Thr Thr Gly Ile Val Val Ser 65 70 75 80
Ala Phe Gly Phe Pro Val Ile Leu Ala Arg Val Ala Val Ile Lys Trp 85 90 95

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Gly Ala Cys Gly Leu Val Leu Ala Gly Asn Ala Val Ile Phe Leu Thr
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Gly Leu Thr Phe Leu Met Leu Gly Cys Ala Leu Glu Asp Tyr Gly Val
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tac tgg ccc tta ttc gtc ctg att ttc cac gcc atc tcc ccc atc ccc 144
Tyr Trp Pro Leu Phe Val Leu Ile Phe His Ala Ile Ser Pro Ile Pro
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Ala	Phe	Gly	Phe	Pro	Val	Ile	Leu	Ala	Arg	Val	Ala	Val	Ile	Lys	Trp																	
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Trp	Trp	Ala	Arg	Cys	Lys	Gln	Met	Asn	Val	Leu	Asp	Ser	Phe	Ile	Asn																	
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Tyr	Tyr	Asp	Ser	Glu	Lys	His	Ala	Glu	Asn	Ala	Val	Ile	Phe	Leu	His																	
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Gly	Asn	Ala	Ala	Ser	Ser	Tyr	Leu	Trp	Arg	His	Val	Val	Pro	His	Ile																	
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Glu	Pro	Val	Ala	Arg	Cys	Ile	Ile	Pro	Asp	Leu	Ile	Gly	Met	Gly	Lys																	
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Glu	His	Gln	Asp	Lys	Ile	Lys	Ala	Ile	Val	His	Ala	Glu	Ser	Val	Val																	
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Asp	Val	Ile	Glu	Ser	Trp	Asp	Glu	Trp	Pro	Asp	Ile	Glu	Glu	Asp	Ile																	
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gtg	aga	aga	ccc	acc	ctg	agc	tgg	ccc	aga	gag	atc	ccc	ctg	gtg	aag	1104
Val	Arg	Arg	Pro	Thr	Leu	Ser	Trp	Pro	Arg	Glu	Ile	Pro	Leu	Val	Lys	
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Leu	Arg	Ala	Ser	Asp	Asp	Leu	Pro	Lys	Met	Phe	Ile	Glu	Ser	Asp	Pro	
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				405					410					415		
acc	gag	ttc	gtg	aag	gtg	aag	ggc	ctg	cac	ttc	agc	cag	gag	gac	gcc	1296
Thr	Glu	Phe	Val	Lys	Val	Lys	Gly	Leu	His	Phe	Ser	Gln	Glu	Asp	Ala	
			420				425						430			
ccc	gac	gag	atg	ggc	aag	tac	atc	aag	agc	ttc	gtg	gag	aga	gtg	ctg	1344
Pro	Asp	Glu	Met	Gly	Lys	Tyr	Ile	Lys	Ser	Phe	Val	Glu	Arg	Val	Leu	
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35 40 45

His Phe Ile Ala Lys Arg Val Thr Tyr Asp Ser Asp Ala Thr Ser Ser
50 55 60

Ala Cys Arg Glu Leu Ala Tyr Phe Phe Thr Thr Gly Ile Val Val Ser
65 70 75 80

Ala Phe Gly Phe Pro Val Ile Leu Ala Arg Val Ala Val Ile Lys Trp
85 90 95

Gly Ala Cys Gly Leu Val Leu Ala Gly Asn Ala Val Ile Phe Leu Thr
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Ile Gln Gly Phe Phe Leu Ile Phe Gly Arg Gly Asp Asp Phe Ser Trp
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Glu Gln Trp Ile Pro Gly Asp Pro Pro Ala Arg Ala Thr Met Thr Ser
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Trp Trp Ala Arg Cys Lys Gln Met Asn Val Leu Asp Ser Phe Ile Asn
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Tyr Tyr Asp Ser Glu Lys His Ala Glu Asn Ala Val Ile Phe Leu His
180 185 190

Gly Asn Ala Ala Ser Ser Tyr Leu Trp Arg His Val Val Pro His Ile
195 200 205

Glu Pro Val Ala Arg Cys Ile Ile Pro Asp Leu Ile Gly Met Gly Lys
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Ser Gly Lys Ser Gly Asn Gly Ser Tyr Arg Leu Leu Asp His Tyr Lys
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Tyr Leu Thr Ala Trp Phe Glu Leu Leu Asn Leu Pro Lys Lys Ile Ile
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Phe Val Gly His Asp Trp Gly Ala Cys Leu Ala Phe His Tyr Ser Tyr
260 265 270

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Glu His Gln Asp Lys Ile Lys Ala Ile Val His Ala Glu Ser Val Val
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Asp Val Ile Glu Ser Trp Asp Glu Trp Pro Asp Ile Glu Glu Asp Ile
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Ala Leu Ile Lys Ser Glu Glu Gly Glu Lys Met Val Leu Glu Asn Asn
305 310 315 320

Phe Phe Val Glu Thr Met Leu Pro Ser Lys Ile Met Arg Lys Leu Glu
325 330 335

Pro Glu Glu Phe Ala Ala Tyr Leu Glu Pro Phe Lys Glu Lys Gly Glu
340 345 350

Val Arg Arg Pro Thr Leu Ser Trp Pro Arg Glu Ile Pro Leu Val Lys
355 360 365

Gly Gly Lys Pro Asp Val Val Gln Ile Val Arg Asn Tyr Asn Ala Tyr
370 375 380

Leu Arg Ala Ser Asp Asp Leu Pro Lys Met Phe Ile Glu Ser Asp Pro
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Gly Phe Phe Ser Asn Ala Ile Val Glu Gly Ala Lys Lys Phe Pro Asn
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Thr Glu Phe Val Lys Val Lys Gly Leu His Phe Ser Gln Glu Asp Ala
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gga ctg act ttt ctt atg ctg gga tgt gcc tta gag gat tat ggc gtt	96
Gly Leu Thr Phe Leu Met Leu Gly Cys Ala Leu Glu Asp Tyr Gly Val	
20 25 30	

tac tgg ccc tta ttc gtc ctg att ttc cac gcc atc tcc ccc atc ccc	144
Tyr Trp Pro Leu Phe Val Leu Ile Phe His Ala Ile Ser Pro Ile Pro	
35 40 45	

cat ttc att gcc aaa aga gtc acc tat gac tca gat gca acc agt agt	192
His Phe Ile Ala Lys Arg Val Thr Tyr Asp Ser Asp Ala Thr Ser Ser	
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gcc tgt cgg gaa ctg gca tat ttc ttc act act gga att gtt gtt tct	240
Ala Cys Arg Glu Leu Ala Tyr Phe Phe Thr Thr Gly Ile Val Val Ser	
65 70 75 80	

gcc ttt gga ttt cct gtt att ctt gct cgt gtg gct gtg atc aaa tgg	288
Ala Phe Gly Phe Pro Val Ile Leu Ala Arg Val Ala Val Ile Lys Trp	
85 90 95	

gga gcc tgc ggc ctt gtg ttg gca ggc aat gca gtc att ttc ctt aca	336
Gly Ala Cys Gly Leu Val Leu Ala Gly Asn Ala Val Ile Phe Leu Thr	
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Ile Gln Gly Phe Phe Leu Ile Phe Gly Arg Gly Asp Asp Phe Ser Trp	
115 120 125	

gag cag tgg att ccg gtc gcc acc atg gtg agc aag ggc gag gag ctg	432
Glu Gln Trp Ile Pro Val Ala Thr Met Val Ser Lys Gly Glu Glu Leu	
130 135 140	

ttc acc ggg gtg gtg ccc atc ctg gtc gag ctg gac ggc gac gta aac	480
Phe Thr Gly Val Val Pro Ile Leu Val Glu Leu Asp Gly Asp Val Asn	
145 150 155 160	

ggc cac aag ttc agc gtg tcc ggc gag ggc gag ggc gat gcc acc tac	528
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165 170 175	

ggc aag ctg acc ctg aag ttc atc tgc acc acc ggc aag ctg ccc gtg	576

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Pro	Trp	Pro	Thr	Leu	Val	Thr	Thr	Phe	Gly	Tyr	Gly	Val	Gln	Cys	Phe	
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gcc	cgc	tac	ccc	gac	cac	atg	cgc	cag	cac	gac	ttc	ttc	aag	tcc	gcc	672
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Val	Asn	Arg	Ile	Glu	Leu	Lys	Gly	Ile	Asp	Phe	Lys	Glu	Asp	Gly	Asn	
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	290					295					300					
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	305				310					315					320	
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Gln	Asn	Thr	Pro	Ile	Gly	Asp	Gly	Pro	Val	Leu	Leu	Pro	Asp	Asn	His	
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tac	ctg	agc	tac	cag	tcc	gcc	ctg	agc	aaa	gac	ccc	aac	gag	aag	cgc	1056
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Tyr Trp Pro Leu Phe Val Leu Ile Phe His Ala Ile Ser Pro Ile Pro
35 40 45

His Phe Ile Ala Lys Arg Val Thr Tyr Asp Ser Asp Ala Thr Ser Ser
50 55 60

Ala Cys Arg Glu Leu Ala Tyr Phe Phe Thr Thr Gly Ile Val Val Ser
65 70 75 80

Ala Phe Gly Phe Pro Val Ile Leu Ala Arg Val Ala Val Ile Lys Trp
85 90 95

Gly Ala Cys Gly Leu Val Leu Ala Gly Asn Ala Val Ile Phe Leu Thr
100 105 110

Ile Gln Gly Phe Phe Leu Ile Phe Gly Arg Gly Asp Asp Phe Ser Trp
115 120 125

Glu Gln Trp Ile Pro Val Ala Thr Met Val Ser Lys Gly Glu Glu Leu
130 135 140

Phe Thr Gly Val Val Pro Ile Leu Val Glu Leu Asp Gly Asp Val Asn
145 150 155 160

Gly His Lys Phe Ser Val Ser Gly Glu Gly Glu Gly Asp Ala Thr Tyr
165 170 175

Gly Lys Leu Thr Leu Lys Phe Ile Cys Thr Thr Gly Lys Leu Pro Val
180 185 190

Pro Trp Pro Thr Leu Val Thr Thr Phe Gly Tyr Gly Val Gln Cys Phe
195 200 205

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Ala Arg Tyr Pro Asp His Met Arg Gln His Asp Phe Phe Lys Ser Ala
210 215 220

Met Pro Glu Gly Tyr Val Gln Glu Arg Thr Ile Phe Phe Lys Asp Asp
225 230 235 240

Gly Asn Tyr Lys Thr Arg Ala Glu Val Lys Phe Glu Gly Asp Thr Leu
245 250 255

Val Asn Arg Ile Glu Leu Lys Gly Ile Asp Phe Lys Glu Asp Gly Asn
260 265 270

Ile Leu Gly His Lys Leu Glu Tyr Asn Tyr Asn Ser His Asn Val Tyr
275 280 285

Ile Met Ala Asp Lys Gln Lys Asn Gly Ile Lys Val Asn Phe Lys Ile
290 295 300

Arg His Asn Ile Glu Asp Gly Ser Val Gln Leu Ala Asp His Tyr Gln
305 310 315 320

Gln Asn Thr Pro Ile Gly Asp Gly Pro Val Leu Leu Pro Asp Asn His
325 330 335

Tyr Leu Ser Tyr Gln Ser Ala Leu Ser Lys Asp Pro Asn Glu Lys Arg
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tat gtg ata act gcg ttt aac ttg tca tat cca att act cct tgg aga      96
Tyr Val Ile Thr Ala Phe Asn Leu Ser Tyr Pro Ile Thr Pro Trp Arg
20 25 30

ttt aag ttg tct tgc atg cca cca aat tca acc tat gac tac ttc ctt      144
Phe Lys Leu Ser Cys Met Pro Pro Asn Ser Thr Tyr Asp Tyr Phe Leu
35 40 45

ttg cct gct gga ctc tca aag aat act tca aat tcg aat gga cat tat      192
Leu Pro Ala Gly Leu Ser Lys Asn Thr Ser Asn Ser Asn Gly His Tyr
50 55 60

gag aca gct gtt gaa cct aag ttt aat tca agt ggt act cac ttt tct      240
Glu Thr Ala Val Glu Pro Lys Phe Asn Ser Ser Gly Thr His Phe Ser
65 70 75 80

aac tta tcc aaa aca act ttc cac tgt tgc ttt cgg agt gag caa gat      288
Asn Leu Ser Lys Thr Thr Phe His Cys Cys Phe Arg Ser Glu Gln Asp
85 90 95

aga aac tgc tcc tta tgt gca gac aac att gaa gga aag aca ttt gtt      336
Arg Asn Cys Ser Leu Cys Ala Asp Asn Ile Glu Gly Lys Thr Phe Val
100 105 110

tca aca gta aat tct tta gtt ttt caa caa ata gat gca aac tgg aac      384
Ser Thr Val Asn Ser Leu Val Phe Gln Gln Ile Asp Ala Asn Trp Asn
115 120 125

ata cag tgc tgg cta aaa gga gac tta aaa tta ttc atc tgt tat gtg      432
Ile Gln Cys Trp Leu Lys Gly Asp Leu Lys Leu Phe Ile Cys Tyr Val
130 135 140

gag tca tta ttt aag aat cta ttc agg aat tat aac tat aag gtc cat      480
Glu Ser Leu Phe Lys Asn Leu Phe Arg Asn Tyr Asn Tyr Lys Val His
145 150 155 160

ctt tta tat gtt ctg cct gaa gtg tta gaa gat tca cct ctg gtt ccc      528
Leu Leu Tyr Val Leu Pro Glu Val Leu Glu Asp Ser Pro Leu Val Pro
165 170 175

caa aaa ggc agt ttt cag atg gtt cac tgc aat tgc agt gtt cat gaa      576
Gln Lys Gly Ser Phe Gln Met Val His Cys Asn Cys Ser Val His Glu
180 185 190

tgt tgt gaa tgt ctt gtg cct gtg cca aca gcc aaa ctc aac gac act      624
Cys Cys Glu Cys Leu Val Pro Val Pro Thr Ala Lys Leu Asn Asp Thr
195 200 205

ctc ctt atg tgt ttg aaa atc aca tct ggt gga gta att ttc cag tca      672
Leu Leu Met Cys Leu Lys Ile Thr Ser Gly Gly Val Ile Phe Gln Ser
210 215 220

cct cta atg tca gtt cag ccc ata aat atg gtg aag cct gat cca cca      720
Pro Leu Met Ser Val Gln Pro Ile Asn Met Val Lys Pro Asp Pro Pro
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Serial No 10-774,721.txt

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Glu	Val	Gln	Val	Arg	Gly	Lys	Arg	Leu	Asp	Gly	Pro	Gly	Ile	Trp	Ser	
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Asp	Trp	Ser	Thr	Pro	Arg	Val	Phe	Thr	Thr	Gln	Asp	Val	Ile	Tyr	Phe	
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Pro	Pro	Lys	Ile	Leu	Thr	Ser	Val	Gly	Ser	Asn	Val	Ser	Phe	His	Cys	
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Ile	Tyr	Lys	Lys	Glu	Asn	Lys	Ile	Val	Pro	Ser	Lys	Glu	Ile	Val	Trp	
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Trp	Met	Asn	Leu	Ala	Glu	Lys	Ile	Pro	Gln	Ser	Gln	Tyr	Asp	Val	Val	
	370					375					380					
agt	gat	cat	ggt	agc	aaa	ggt	act	ttt	ttc	aat	ctg	aat	gaa	acc	aaa	1200
Ser	Asp	His	Val	Ser	Lys	Val	Thr	Phe	Phe	Asn	Leu	Asn	Glu	Thr	Lys	
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cct	cga	gga	aag	ttt	acc	tat	gat	gca	gtg	tac	tgc	tgc	aat	gaa	cat	1248
Pro	Arg	Gly	Lys	Phe	Thr	Tyr	Asp	Ala	Val	Tyr	Cys	Cys	Asn	Glu	His	
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gaa	tgc	cat	cat	cgc	tat	gct	gaa	tta	tat	gtg	att	gat	gtc	aat	atc	1296
Glu	Cys	His	His	Arg	Tyr	Ala	Glu	Leu	Tyr	Val	Ile	Asp	Val	Asn	Ile	
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Asn	Ile	Ser	Cys	Glu	Thr	Asp	Gly	Tyr	Leu	Thr	Lys	Met	Thr	Cys	Arg	
		435					440					445				
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Trp	Ser	Thr	Ser	Thr	Ile	Gln	Ser	Leu	Ala	Glu	Ser	Thr	Leu	Gln	Leu	
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Arg	Tyr	His	Arg	Ser	Ser	Leu	Tyr	Cys	Ser	Asp	Ile	Pro	Ser	Ile	His	
465					470					475					480	
ccc	ata	tct	gag	ccc	aaa	gat	tgc	tat	ttg	cag	agt	gat	ggg	ttt	tat	1488
Pro	Ile	Ser	Glu	Pro	Lys	Asp	Cys	Tyr	Leu	Gln	Ser	Asp	Gly	Phe	Tyr	
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att agg atc aat cac tct cta ggt tca ctt gac tct cca cca aca tgt Ile Arg Ile Asn His Ser Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys 515 520 525	1584
gtc ctt cct gat tct gtg gtg aag cca ctg cct cca tcc agt gtg aaa Val Leu Pro Asp Ser Val Val Lys Pro Leu Pro Pro Ser Ser Val Lys 530 535 540	1632
gca gaa att act ata aac att gga tta ttg aaa ata tct tgg gaa aag Ala Glu Ile Thr Ile Asn Ile Gly Leu Leu Lys Ile Ser Trp Glu Lys 545 550 555 560	1680
cca gtc ttt cca gag aat aac ctt caa ttc cag att cgc tat ggt tta Pro Val Phe Pro Glu Asn Asn Leu Gln Phe Gln Ile Arg Tyr Gly Leu 565 570 575	1728
agt gga aaa gaa gta caa tgg aag atg tat gag gtt tat gat gca aaa Ser Gly Lys Glu Val Gln Trp Lys Met Tyr Glu Val Tyr Asp Ala Lys 580 585 590	1776
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tgg agc aat cca gcc tac aca gtt gtc atg gat ata aaa gtt cct atg Trp Ser Asn Pro Ala Tyr Thr Val Val Met Asp Ile Lys Val Pro Met 625 630 635 640	1920
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gag aaa aat gtc act tta ctt tgg aag ccc ctg atg aaa aat gac tca Glu Lys Asn Val Thr Leu Leu Trp Lys Pro Leu Met Lys Asn Asp Ser 660 665 670	2016
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gga aca tgg tca gaa gat gtg gga aat cac acg aaa ttc act ttc ctg Gly Thr Trp Ser Glu Asp Val Gly Asn His Thr Lys Phe Thr Phe Leu 690 695 700	2112
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ggt gct tct gtt gca aat ttt aat tta acc ttt tca tgg cct atg agc Gly Ala Ser Val Ala Asn Phe Asn Leu Thr Phe Ser Trp Pro Met Ser 725 730 735	2208
aaa gta aat atc gtg cag tca ctc agt gct tat cct tta aac agc agt Lys Val Asn Ile Val Gln Ser Leu Ser Ala Tyr Pro Leu Asn Ser Ser 740 745 750	2256

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tgt gtg att gtt tcc tgg ata cta tca ccc agt gat tac aag cta atg Cys Val Ile Val Ser Trp Ile Leu Ser Pro Ser Asp Tyr Lys Leu Met 755 760 765	2304
tat ttt att att gag tgg aaa aat ctt aat gaa gat ggt gaa ata aaa Tyr Phe Ile Ile Glu Trp Lys Asn Leu Asn Glu Asp Gly Glu Ile Lys 770 775 780	2352
tgg ctt aga atc tct tca tct gtt aag aag tat tat atc cat gat cat Trp Leu Arg Ile Ser Ser Ser Val Lys Lys Tyr Tyr Ile His Asp His 785 790 800	2400
ttt atc ccc att gag aag tac cag ttc agt ctt tac cca ata ttt atg Phe Ile Pro Ile Glu Lys Tyr Gln Phe Ser Leu Tyr Pro Ile Phe Met 805 810 815	2448
gaa gga gtg gga aaa cca aag ata att aat agt ttc act caa gat gat Glu Gly Val Gly Lys Pro Lys Ile Ile Asn Ser Phe Thr Gln Asp Asp 820 825 830	2496
att gaa aaa cac cag agt gat gca ggt tta tat gta att gtg cca gta Ile Glu Lys His Gln Ser Asp Ala Gly Leu Tyr Val Ile Val Pro Val 835 840 845	2544
att att tcc tct tcc atc tta ttg ctt gga aca tta tta ata tca cac Ile Ile Ser Ser Ser Ile Leu Leu Gly Thr Leu Leu Ile Ser His 850 855 860	2592
caa aga atg aaa aag cta ttt tgg gaa gat gtt ccg aac ccc aag aat Gln Arg Met Lys Lys Leu Phe Trp Glu Asp Val Pro Asn Pro Lys Asn 865 870 875 880	2640
tgt tcc tgg gca caa gga ctt aat ttt cag aag aga acg gac att ctt Cys Ser Trp Ala Gln Gly Leu Asn Phe Gln Lys Arg Thr Asp Ile Leu 885 890 895	2688
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Phe Lys Leu Ser Cys Met Pro Pro Asn Ser Thr Tyr Asp Tyr Phe Leu
35 40 45

Serial No 10-774,721.txt

Leu Pro Ala Gly Leu Ser Lys Asn Thr Ser Asn Ser Asn Gly His Tyr
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 Glu Thr Ala Val Glu Pro Lys Phe Asn Ser Ser Gly Thr His Phe Ser
 65 70 75 80
 Asn Leu Ser Lys Thr Thr Phe His Cys Cys Phe Arg Ser Glu Gln Asp
 85 90 95
 Arg Asn Cys Ser Leu Cys Ala Asp Asn Ile Glu Gly Lys Thr Phe Val
 100 105 110
 Ser Thr Val Asn Ser Leu Val Phe Gln Gln Ile Asp Ala Asn Trp Asn
 115 120 125
 Ile Gln Cys Trp Leu Lys Gly Asp Leu Lys Leu Phe Ile Cys Tyr Val
 130 135 140
 Glu Ser Leu Phe Lys Asn Leu Phe Arg Asn Tyr Asn Tyr Lys Val His
 145 150 155 160
 Leu Leu Tyr Val Leu Pro Glu Val Leu Glu Asp Ser Pro Leu Val Pro
 165 170 175
 Gln Lys Gly Ser Phe Gln Met Val His Cys Asn Cys Ser Val His Glu
 180 185 190
 Cys Cys Glu Cys Leu Val Pro Val Pro Thr Ala Lys Leu Asn Asp Thr
 195 200 205
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 210 215 220
 Pro Leu Met Ser Val Gln Pro Ile Asn Met Val Lys Pro Asp Pro Pro
 225 230 235 240
 Leu Gly Leu His Met Glu Ile Thr Asp Asp Gly Asn Leu Lys Ile Ser
 245 250 255
 Trp Ser Ser Pro Pro Leu Val Pro Phe Pro Leu Gln Tyr Gln Val Lys
 260 265 270
 Tyr Ser Glu Asn Ser Thr Thr Val Ile Arg Glu Ala Asp Lys Ile Val
 275 280 285
 Ser Ala Thr Ser Leu Leu Val Asp Ser Ile Leu Pro Gly Ser Ser Tyr
 290 295 300

Serial No 10-774,721.txt

Glu Val Gln Val Arg Gly Lys Arg Leu Asp Gly Pro Gly Ile Trp Ser
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 325 330 335
 Pro Pro Lys Ile Leu Thr Ser Val Gly Ser Asn Val Ser Phe His Cys
 340 345 350
 Ile Tyr Lys Lys Glu Asn Lys Ile Val Pro Ser Lys Glu Ile Val Trp
 355 360 365
 Trp Met Asn Leu Ala Glu Lys Ile Pro Gln Ser Gln Tyr Asp Val Val
 370 375 380
 Ser Asp His Val Ser Lys Val Thr Phe Phe Asn Leu Asn Glu Thr Lys
 385 390 395 400
 Pro Arg Gly Lys Phe Thr Tyr Asp Ala Val Tyr Cys Cys Asn Glu His
 405 410 415
 Glu Cys His His Arg Tyr Ala Glu Leu Tyr Val Ile Asp Val Asn Ile
 420 425 430
 Asn Ile Ser Cys Glu Thr Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg
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 Trp Ser Thr Ser Thr Ile Gln Ser Leu Ala Glu Ser Thr Leu Gln Leu
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 Arg Tyr His Arg Ser Ser Leu Tyr Cys Ser Asp Ile Pro Ser Ile His
 465 470 475 480
 Pro Ile Ser Glu Pro Lys Asp Cys Tyr Leu Gln Ser Asp Gly Phe Tyr
 485 490 495
 Glu Cys Ile Phe Gln Pro Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp
 500 505 510
 Ile Arg Ile Asn His Ser Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys
 515 520 525
 Val Leu Pro Asp Ser Val Val Lys Pro Leu Pro Pro Ser Ser Val Lys
 530 535 540
 Ala Glu Ile Thr Ile Asn Ile Gly Leu Leu Lys Ile Ser Trp Glu Lys

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						Gln
						Ile
						Arg
						Tyr
						Gly
						Leu
Ser	Gly	Lys	Glu 580	Val	Gln	Trp
						Lys
						Met
						Tyr
						Glu
						Val
						Tyr
						Asp
						Ala
						Lys
Ser	Lys	Ser	Val	Ser	Leu	Pro
						Val
						Pro
						Asp
						Leu
						Cys
						Ala
						Val
						Tyr
						Ala
Val	Gln	Val	Arg	Cys	Lys	Arg
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						Asp
						Gly
						Leu
						Gly
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						Trp
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						Val
						Val
						Met
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						Ile
						Lys
						Val
						Pro
						Met
Arg	Gly	Pro	Glu	Phe	Trp	Arg
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						Ile
						Asn
						Gly
						Asp
						Thr
						Met
						Lys
						Lys
Glu	Lys	Asn	Val	Thr	Leu	Leu
						Trp
						Lys
						Pro
						Leu
						Met
						Lys
						Asn
						Asp
						Ser
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						Thr
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Gly	Ala	Ser	Val	Ala	Asn	Phe
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						Leu
						Thr
						Phe
						Ser
						Trp
						Pro
						Met
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Lys	Val	Asn	Ile	Val	Gln	Ser
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						Ser
						Ala
						Tyr
						Pro
						Leu
						Asn
						Ser
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						Ile
						Lys
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						Tyr
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						Ile
						His
						Asp
						His

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Phe Ile Pro Ile Glu Lys Tyr Gln Phe Ser Leu Tyr Pro Ile Phe Met
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Glu Gly Val Gly Lys Pro Lys Ile Ile Asn Ser Phe Thr Gln Asp Asp
820 825 830

Ile Glu Lys His Gln Ser Asp Ala Gly Leu Tyr Val Ile Val Pro Val
835 840 845

Ile Ile Ser Ser Ser Ile Leu Leu Leu Gly Thr Leu Leu Ile Ser His
850 855 860

Gln Arg Met Lys Lys Leu Phe Trp Glu Asp Val Pro Asn Pro Lys Asn
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48

ctc ctg atg ctc ttc cac ctg gga ctc caa gct tca atc tcg gcg cgc
Leu Leu Met Leu Phe His Leu Gly Leu Gln Ala Ser Ile Ser Ala Arg

96

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act cct tgg aga ttt aag ttg tct tgc atg cca cca aat tca acc tat Thr Pro Trp Arg Phe Lys Leu Ser Cys Met Pro Pro Asn Ser Thr Tyr 50 55 60			192
gac tac ttc ctt ttg cct gct gga ctc tca aag aat act tca aat tcg Asp Tyr Phe Leu Leu Pro Ala Gly Leu Ser Lys Asn Thr Ser Asn Ser 65 70 75 80			240
aat gga cat tat gag aca gct gtt gaa cct aag ttt aat tca agt ggt Asn Gly His Tyr Glu Thr Ala Val Glu Pro Lys Phe Asn Ser Ser Gly 85 90 95			288
act cac ttt tct aac tta tcc aaa aca act ttc cac tgt tgc ttt cgg Thr His Phe Ser Asn Leu Ser Lys Thr Thr Phe His Cys Cys Phe Arg 100 105 110			336
agt gag caa gat aga aac tgc tcc tta tgt gca gac aac att gaa gga Ser Glu Gln Asp Arg Asn Cys Ser Leu Cys Ala Asp Asn Ile Glu Gly 115 120 125			384
acg aca ttt gtt tca aca gta aat tct tta gtt ttt caa caa ata gat Thr Thr Phe Val Ser Thr Val Asn Ser Leu Val Phe Gln Gln Ile Asp 130 135 140			432
gca aac tgg aac ata cag tgc tgg cta aaa gga gac tta aaa tta ttc Ala Asn Trp Asn Ile Gln Cys Trp Leu Lys Gly Asp Leu Lys Leu Phe 145 150 155 160			480
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tat aag gtc cat ctt tta tat gtt ctg cct gaa gtg tta gaa gat tca Tyr Lys Val His Leu Leu Tyr Val Leu Pro Glu Val Leu Glu Asp Ser 180 185 190			576
cct ctg gtt ccc caa aaa ggc agt ttt cag atg gtt cac tgc aat tgc Pro Leu Val Pro Gln Lys Gly Ser Phe Gln Met Val His Cys Asn Cys 195 200 205			624
agt gtt cat gaa tgt tgt gaa tgt ctt gtg cct gtg cca aca gcc aaa Ser Val His Glu Cys Cys Glu Cys Leu Val Pro Val Pro Thr Ala Lys 210 215 220			672
ctc aac gac act ctc ctt atg tgt ttg aaa atc aca tct ggt gga gta Leu Asn Asp Thr Leu Leu Met Cys Leu Lys Ile Thr Ser Gly Gly Val 225 230 235 240			720
att ttc cgg tca cct cta atg tca gtt cag ccc ata aat atg gtg aag Ile Phe Arg Ser Pro Leu Met Ser Val Gln Pro Ile Asn Met Val Lys 245 250 255			768
cct gat cca cca tta ggt ttg cat atg gaa atc aca gat gat ggt aat Pro Asp Pro Pro Leu Gly Leu His Met Glu Ile Thr Asp Asp Gly Asn 260 265 270			816
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Serial No 10-774,721.txt

Leu	Lys	Ile	Ser	Trp	Ser	Ser	Pro	Pro	Leu	Val	Pro	Phe	Pro	Leu	Gln	
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Tyr	Gln	Val	Lys	Tyr	Ser	Glu	Asn	Ser	Thr	Thr	Val	Ile	Arg	Glu	Ala	
	290					295					300					
gac	aag	att	gtc	tca	gct	aca	tcc	ctg	cta	gta	gac	agt	ata	ctt	cct	960
Asp	Lys	Ile	Val	Ser	Ala	Thr	Ser	Leu	Leu	Val	Asp	Ser	Ile	Leu	Pro	
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ggg	tct	tcg	tat	gag	gtt	cag	gtg	agg	ggc	aag	aga	ctg	gat	ggc	cca	1008
Gly	Ser	Ser	Tyr	Glu	Val	Gln	Val	Arg	Gly	Lys	Arg	Leu	Asp	Gly	Pro	
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gga	atc	tgg	agt	gac	tgg	agt	act	cct	cgt	gtc	ttt	acc	aca	caa	gat	1056
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			340					345					350			
gtc	ata	tac	ttt	cca	cct	aaa	att	ctg	aca	agt	gtt	ggg	tct	aat	gtt	1104
Val	Ile	Tyr	Phe	Pro	Pro	Lys	Ile	Leu	Thr	Ser	Val	Gly	Ser	Asn	Val	
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Cys	Asn	Glu	His	Glu	Cys	His	His	Arg	Tyr	Ala	Glu	Leu	Tyr	Val	Ile	
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Asp	Val	Asn	Ile	Asn	Ile	Ser	Cys	Glu	Thr	Asp	Gly	Tyr	Leu	Thr	Lys	
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Thr	Leu	Gln	Leu	Arg	Tyr	His	Arg	Ser	Ser	Leu	Tyr	Cys	Ser	Asp	Ile	
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Pro	Ser	Ile	His	Pro	Ile	Ser	Glu	Pro	Lys	Asp	Cys	Tyr	Leu	Gln	Ser	
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Serial No 10-774,721.txt

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tcc Ser	agt Ser	gtg Val	aaa Lys	gca Ala 565	gaa Glu	att Ile	act Thr	ata Ile	aac Asn 570	att Ile	gga Gly	tta Leu	ttg Leu	aaa Lys 575	ata Ile	1728
tct Ser	tgg Trp	gaa Glu	aag Lys 580	cca Pro	gtc Val	ttt Phe	cca Pro	gag Glu 585	aat Asn	aac Asn	ctt Leu	caa Gln	ttc Phe 590	cag Gln	att Ile	1776
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tgg Trp	cct Pro	atg Met 755	agc Ser	aaa Lys	gta Val	aat Asn	atc Ile 760	gtg Val	cag Gln	tca Ser	ctc Leu	agt Ser 765	gct Ala	tat Tyr	cct Pro	2304
tta Leu 770	aac Asn	agc Ser	agt Ser	tgt Cys	gtg Val	att Ile 775	gtt Val	tcc Ser	tgg Trp	ata Ile	cta Leu 780	tca Ser	ccc Pro	agt Ser	gat Asp	2352

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ggc Gly	gaa Glu	ata Ile	aaa Lys	tgg Trp 805	ctt Leu	aga Arg	atc Ile	tct Ser	tca Ser 810	tct Ser	ggt Val	aag Lys	aag Lys	tat Tyr 815	tat Tyr	2448
atc Ile	cat His	gat Asp	cat His 820	ttt Phe	atc Ile	ccc Pro	att Ile	gag Glu 825	aag Lys	tac Tyr	cag Gln	ttc Phe	agt Ser 830	ctt Leu	tac Tyr	2496
cca Pro	ata Ile	ttt Phe 835	atg Met	gaa Glu	gga Gly	gtg Val	gga Gly 840	aaa Lys	cca Pro	aag Lys	ata Ile	att Ile 845	aat Asn	agt Ser	ttc Phe	2544
act Thr	caa Gln 850	gat Asp	gat Asp	att Ile	gaa Glu	aaa Lys 855	cac His	cag Gln	agt Ser	gat Asp	gca Ala 860	ggc Gly	tta Leu	tat Tyr	gta Val	2592
att Ile 865	gtg Val	cca Pro	gta Val	att Ile	att Ile 870	tcc Ser	tct Ser	tcc Ser	atc Ile	tta Leu 875	ttg Leu	ctt Leu	gga Gly	aca Thr	tta Leu 880	2640
tta Leu	ata Ile	tca Ser	cac His 885	caa Gln	aga Arg	atg Met	aaa Lys	aag Lys	cta Leu 890	ttt Phe	tgg Trp	gaa Glu	gat Asp	gtt Val 895	ccg Pro	2688
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tac Tyr	gac Asp 930	ccc Pro	gag Glu	cag Gln	agg Arg	aag Lys 935	agg Arg	atg Met	atc Ile	acc Thr	ggc Gly 940	ccc Pro	cag Gln	tgg Trp	tgg Trp	2832
gcc Ala 945	agg Arg	tgc Cys	aag Lys	cag Gln	atg Met 950	aac Asn	gtg Val	ctg Leu	gac Asp	agc Ser 955	ttc Phe	atc Ile	aac Asn	tac Tyr	tac Tyr 960	2880
gac Asp	agc Ser	gag Glu	aag Lys	cac His 965	gcc Ala	gag Glu	aac Asn	gcc Ala	gtg Val 970	atc Ile	ttc Phe	ctg Leu	cac His	ggc Gly 975	aac Asn	2928
gcc Ala	gct Ala	agc Ser	agc Ser 980	tac Tyr	ctg Leu	tgg Trp	agg Arg	cac His 985	gtg Val	gtg Val	ccc Pro	cac His	atc Ile 990	gag Glu	ccc Pro	2976
gtg Val	gcc Ala	agg Arg 995	tgc Cys	atc Ile	atc Ile	ccc Pro	gat Asp 1000	ctg Leu	atc Ile	ggc Gly 1005	atg Met	ggc Gly 1005	aag Lys	agc Ser	ggc Gly	3024
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ctg Leu	acc Thr	gcc Ala	tgg Trp	ttc Phe	gag Glu	ctc Leu	ctg Leu	aac Asn	ctg Leu	ccc Pro	aag Lys	aag Lys	atc Ile	atc Ile		3114

Serial No 10-774,721.txt

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gtg gtg gac gtg atc gag agc tgg gac gag tgg cca gac atc gag Val Val Asp Val Ile Glu Ser Trp Asp Glu Trp Pro Asp Ile Glu 1070 1075 1080			3249
gag gac atc gcc ctg atc aag agc gag gag ggc gag aag atg gtg Glu Asp Ile Ala Leu Ile Lys Ser Glu Glu Gly Glu Lys Met Val 1085 1090 1095			3294
ctg gag aac aac ttc ttc gtg gag acc atg ctg ccc agc aag atc Leu Glu Asn Asn Phe Phe Val Glu Thr Met Leu Pro Ser Lys Ile 1100 1105 1110			3339
atg aga aag ctg gag ccc gag gag ttc gcc gcc tac ctg gag ccc Met Arg Lys Leu Glu Pro Glu Glu Phe Ala Ala Tyr Leu Glu Pro 1115 1120 1125			3384
ttc aag gag aag ggc gag gtg aga aga ccc acc ctg agc tgg ccc Phe Lys Glu Lys Gly Glu Val Arg Arg Pro Thr Leu Ser Trp Pro 1130 1135 1140			3429
aga gag atc ccc ctg gtg aag ggc ggc aag ccc gag gtg gtg cag Arg Glu Ile Pro Leu Val Lys Gly Gly Lys Pro Asp Val Val Gln 1145 1150 1155			3474
atc gtg aga aac tac aac gcc tac ctg aga gcc agc gac gac ctg Ile Val Arg Asn Tyr Asn Ala Tyr Leu Arg Ala Ser Asp Asp Leu 1160 1165 1170			3519
ccc aag atg ttc atc gag agc gac ccc ggc ttc ttc agc aac gcc Pro Lys Met Phe Ile Glu Ser Asp Pro Gly Phe Phe Ser Asn Ala 1175 1180 1185			3564
atc gtg gag ggc gcc aag aag ttc ccc aac acc gag ttc gtg aag Ile Val Glu Gly Ala Lys Lys Phe Pro Asn Thr Glu Phe Val Lys 1190 1195 1200			3609
gtg aag ggc ctg cac ttc agc cag gag gac gcc ccc gac gag atg Val Lys Gly Leu His Phe Ser Gln Glu Asp Ala Pro Asp Glu Met 1205 1210 1215			3654
ggc aag tac atc aag agc ttc gtg gag aga gtg ctg aag aac gag Gly Lys Tyr Ile Lys Ser Phe Val Glu Arg Val Leu Lys Asn Glu 1220 1225 1230			3699
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Gln Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Thr Arg Tyr Pro Ile
35 40 45

Thr Pro Trp Arg Phe Lys Leu Ser Cys Met Pro Pro Asn Ser Thr Tyr
50 55 60

Asp Tyr Phe Leu Leu Pro Ala Gly Leu Ser Lys Asn Thr Ser Asn Ser
65 70 75 80

Asn Gly His Tyr Glu Thr Ala Val Glu Pro Lys Phe Asn Ser Ser Gly
85 90 95

Thr His Phe Ser Asn Leu Ser Lys Thr Thr Phe His Cys Cys Phe Arg
100 105 110

Ser Glu Gln Asp Arg Asn Cys Ser Leu Cys Ala Asp Asn Ile Glu Gly
115 120 125

Thr Thr Phe Val Ser Thr Val Asn Ser Leu Val Phe Gln Gln Ile Asp
130 135 140

Ala Asn Trp Asn Ile Gln Cys Trp Leu Lys Gly Asp Leu Lys Leu Phe
145 150 155 160

Ile Cys Tyr Val Glu Ser Leu Phe Lys Asn Leu Phe Arg Asn Tyr Asn
165 170 175

Tyr Lys Val His Leu Leu Tyr Val Leu Pro Glu Val Leu Glu Asp Ser
Page 26

Serial No 10-774,721.txt
185 190

180

Pro Leu Val Pro Gln Lys Gly Ser Phe Gln Met Val His Cys Asn Cys
195 200 205

Ser Val His Glu Cys Cys Glu Cys Leu Val Pro Val Pro Thr Ala Lys
210 215 220

Leu Asn Asp Thr Leu Leu Met Cys Leu Lys Ile Thr Ser Gly Gly Val
225 230 235 240

Ile Phe Arg Ser Pro Leu Met Ser Val Gln Pro Ile Asn Met Val Lys
245 250 255

Pro Asp Pro Pro Leu Gly Leu His Met Glu Ile Thr Asp Asp Gly Asn
260 265 270

Leu Lys Ile Ser Trp Ser Ser Pro Pro Leu Val Pro Phe Pro Leu Gln
275 280 285

Tyr Gln Val Lys Tyr Ser Glu Asn Ser Thr Thr Val Ile Arg Glu Ala
290 295 300

Asp Lys Ile Val Ser Ala Thr Ser Leu Leu Val Asp Ser Ile Leu Pro
305 310 315 320

Gly Ser Ser Tyr Glu Val Gln Val Arg Gly Lys Arg Leu Asp Gly Pro
325 330 335

Gly Ile Trp Ser Asp Trp Ser Thr Pro Arg Val Phe Thr Thr Gln Asp
340 345 350

Val Ile Tyr Phe Pro Pro Lys Ile Leu Thr Ser Val Gly Ser Asn Val
355 360 365

Ser Phe His Cys Ile Tyr Lys Lys Glu Asn Lys Ile Val Pro Ser Lys
370 375 380

Glu Ile Val Trp Trp Met Asn Leu Ala Glu Lys Ile Pro Gln Ser Gln
385 390 395 400

Tyr Asp Val Val Ser Asp His Val Ser Lys Val Thr Phe Phe Asn Leu
405 410 415

Asn Glu Thr Lys Pro Arg Gly Lys Phe Thr Tyr Asp Ala Val Tyr Cys
420 425 430

Cys Asn Glu His Glu Cys His His Arg Tyr Ala Glu Leu Tyr Val Ile
435 440 445

Asp Val Asn Ile Asn Ile Ser Cys Glu Thr Asp Gly Tyr Leu Thr Lys
450 455 460

Met Thr Cys Arg Trp Ser Thr Ser Thr Ile Gln Ser Leu Ala Glu Ser
465 470 475 480

Thr Leu Gln Leu Arg Tyr His Arg Ser Ser Leu Tyr Cys Ser Asp Ile
485 490 495

Pro Ser Ile His Pro Ile Ser Glu Pro Lys Asp Cys Tyr Leu Gln Ser
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Asp Gly Phe Tyr Glu Cys Ile Phe Gln Pro Ile Phe Leu Leu Ser Gly
515 520 525

Tyr Thr Met Trp Ile Arg Ile Asn His Ser Leu Gly Ser Leu Asp Ser
530 535 540

Pro Pro Thr Cys Val Leu Pro Asp Ser Val Val Lys Pro Leu Pro Pro
545 550 555 560

Ser Ser Val Lys Ala Glu Ile Thr Ile Asn Ile Gly Leu Leu Lys Ile
565 570 575

Ser Trp Glu Lys Pro Val Phe Pro Glu Asn Asn Leu Gln Phe Gln Ile
580 585 590

Arg Tyr Gly Leu Ser Gly Lys Glu Val Gln Trp Lys Met Tyr Glu Val
595 600 605

Tyr Asp Ala Lys Ser Lys Ser Val Ser Leu Pro Val Pro Asp Leu Cys
610 615 620

Ala Val Tyr Ala Val Gln Val Arg Cys Lys Arg Leu Asp Gly Leu Gly
625 630 635 640

Tyr Trp Ser Asn Trp Ser Asn Pro Ala Tyr Thr Val Val Met Asp Ile
645 650 655

Lys Val Pro Met Arg Gly Pro Glu Phe Trp Arg Ile Ile Asn Gly Asp
660 665 670

Thr Met Lys Lys Glu Lys Asn Val Thr Leu Leu Trp Lys Pro Leu Met
675 680 685

Serial No 10-774,721.txt

Lys Asn Asp Ser Leu Cys Ser Val Gln Arg Tyr Val Ile Asn His His
 690 695 700
 Thr Ser Cys Asn Gly Thr Trp Ser Glu Asp Val Gly Asn His Thr Lys
 705 710 715 720
 Phe Thr Phe Leu Trp Thr Glu Gln Ala His Thr Val Thr Val Leu Ala
 725 730 735
 Ile Asn Ser Ile Gly Ala Ser Val Ala Asn Phe Asn Leu Thr Phe Ser
 740 745 750
 Trp Pro Met Ser Lys Val Asn Ile Val Gln Ser Leu Ser Ala Tyr Pro
 755 760 765
 Leu Asn Ser Ser Cys Val Ile Val Ser Trp Ile Leu Ser Pro Ser Asp
 770 775 780
 Tyr Lys Leu Met Tyr Phe Ile Ile Glu Trp Lys Asn Leu Asn Glu Asp
 785 790 795 800
 Gly Glu Ile Lys Trp Leu Arg Ile Ser Ser Ser Val Lys Lys Tyr Tyr
 805 810 815
 Ile His Asp His Phe Ile Pro Ile Glu Lys Tyr Gln Phe Ser Leu Tyr
 820 825 830
 Pro Ile Phe Met Glu Gly Val Gly Lys Pro Lys Ile Ile Asn Ser Phe
 835 840 845
 Thr Gln Asp Asp Ile Glu Lys His Gln Ser Asp Ala Gly Leu Tyr Val
 850 855 860
 Ile Val Pro Val Ile Ile Ser Ser Ser Ile Leu Leu Leu Gly Thr Leu
 865 870 875 880
 Leu Ile Ser His Gln Arg Met Lys Lys Leu Phe Trp Glu Asp Val Pro
 885 890 895
 Asn Pro Lys Asn Cys Ser Trp Ala Gln Gly Leu Asn Phe Gln Lys Arg
 900 905 910
 Thr Asp Ile Leu Asp Pro Pro Ala Arg Ala Thr Met Thr Ser Lys Val
 915 920 925
 Tyr Asp Pro Glu Gln Arg Lys Arg Met Ile Thr Gly Pro Gln Trp Trp
 930 935 940

Serial No 10-774,721.txt

Ala Arg Cys Lys Gln Met Asn Val Leu Asp Ser Phe Ile Asn Tyr Tyr
945 950 955 960

Asp Ser Glu Lys His Ala Glu Asn Ala Val Ile Phe Leu His Gly Asn
965 970 975

Ala Ala Ser Ser Tyr Leu Trp Arg His Val Val Pro His Ile Glu Pro
980 985 990

Val Ala Arg Cys Ile Ile Pro Asp Leu Ile Gly Met Gly Lys Ser Gly
995 1000 1005

Lys Ser Gly Asn Gly Ser Tyr Arg Leu Leu Asp His Tyr Lys Tyr
1010 1015 1020

Leu Thr Ala Trp Phe Glu Leu Leu Asn Leu Pro Lys Lys Ile Ile
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Phe Val Gly His Asp Trp Gly Ala Cys Leu Ala Phe His Tyr Ser
1040 1045 1050

Tyr Glu His Gln Asp Lys Ile Lys Ala Ile Val His Ala Glu Ser
1055 1060 1065

Val Val Asp Val Ile Glu Ser Trp Asp Glu Trp Pro Asp Ile Glu
1070 1075 1080

Glu Asp Ile Ala Leu Ile Lys Ser Glu Glu Gly Glu Lys Met Val
1085 1090 1095

Leu Glu Asn Asn Phe Phe Val Glu Thr Met Leu Pro Ser Lys Ile
1100 1105 1110

Met Arg Lys Leu Glu Pro Glu Glu Phe Ala Ala Tyr Leu Glu Pro
1115 1120 1125

Phe Lys Glu Lys Gly Glu Val Arg Arg Pro Thr Leu Ser Trp Pro
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Arg Glu Ile Pro Leu Val Lys Gly Gly Lys Pro Asp Val Val Gln
1145 1150 1155

Ile Val Arg Asn Tyr Asn Ala Tyr Leu Arg Ala Ser Asp Asp Leu
1160 1165 1170

Pro Lys Met Phe Ile Glu Ser Asp Pro Gly Phe Phe Ser Asn Ala
Page 30

1175

1180

1185

Ile Val Glu Gly Ala Lys Lys Phe Pro Asn Thr Glu Phe Val Lys
1190 1195 1200

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Leu Leu Met Leu Phe His Leu Gly Leu Gln Ala Ser Ile Ser Ala Arg
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cag gag cag aag ctt atc tcg gag gag gac ctg acg cgt tat cca att 144
Gln Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Thr Arg Tyr Pro Ile
35 40 45

Serial No 10-774,721.txt

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Asp	Tyr	Phe	Leu	Leu	Pro	Ala	Gly	Leu	Ser	Lys	Asn	Thr	Ser	Asn	Ser	
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Asn	Gly	His	Tyr	Glu	Thr	Ala	Val	Glu	Pro	Lys	Phe	Asn	Ser	Ser	Gly	
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Ile	Cys	Tyr	Val	Glu	Ser	Leu	Phe	Lys	Asn	Leu	Phe	Arg	Asn	Tyr	Asn	
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Tyr	Lys	Val	His	Leu	Leu	Tyr	Val	Leu	Pro	Glu	Val	Leu	Glu	Asp	Ser	
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Pro	Leu	Val	Pro	Gln	Lys	Gly	Ser	Phe	Gln	Met	Val	His	Cys	Asn	Cys	
		195					200					205				
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Ser	Val	His	Glu	Cys	Cys	Glu	Cys	Leu	Val	Pro	Val	Pro	Thr	Ala	Lys	
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Leu	Asn	Asp	Thr	Leu	Leu	Met	Cys	Leu	Lys	Ile	Thr	Ser	Gly	Gly	Val	
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Ile	Phe	Arg	Ser	Pro	Leu	Met	Ser	Val	Gln	Pro	Ile	Asn	Met	Val	Lys	
				245					250					255		
cct	gat	cca	cca	tta	ggg	ttg	cat	atg	gaa	atc	aca	gat	gat	ggg	aat	816
Pro	Asp	Pro	Pro	Leu	Gly	Leu	His	Met	Glu	Ile	Thr	Asp	Asp	Gly	Asn	
			260					265					270			
tta	aag	att	tct	tgg	tcc	agc	cca	cca	ttg	gta	cca	ttt	cca	ctt	caa	864
Leu	Lys	Ile	Ser	Trp	Ser	Ser	Pro	Pro	Leu	Val	Pro	Phe	Pro	Leu	Gln	
		275					280					285				
tat	caa	gtg	aaa	tat	tca	gag	aat	tct	aca	aca	gtt	atc	aga	gaa	gct	912
Tyr	Gln	Val	Lys	Tyr	Ser	Glu	Asn	Ser	Thr	Thr	Val	Ile	Arg	Glu	Ala	

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300

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Asp	Lys	Ile	Val	Ser	Ala	Thr	Ser	Leu	Leu	Val	Asp	Ser	Ile	Leu	Pro		
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ggg	tct	tcg	tat	gag	gtt	cag	gtg	agg	ggc	aag	aga	ctg	gat	ggc	cca		1008
Gly	Ser	Ser	Tyr	Glu	Val	Gln	Val	Arg	Gly	Lys	Arg	Leu	Asp	Gly	Pro		
				325					330					335			
gga	atc	tgg	agt	gac	tgg	agt	act	cct	cgt	gtc	ttt	acc	aca	caa	gat		1056
Gly	Ile	Trp	Ser	Asp	Trp	Ser	Thr	Pro	Arg	Val	Phe	Thr	Thr	Gln	Asp		
			340					345					350				
gtc	ata	tac	ttt	cca	cct	aaa	att	ctg	aca	agt	gtt	ggg	tct	aat	gtt		1104
Val	Ile	Tyr	Phe	Pro	Pro	Lys	Ile	Leu	Thr	Ser	Val	Gly	Ser	Asn	Val		
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tct	ttt	cac	tgc	atc	tat	aag	aag	gaa	aac	aag	att	gtt	ccc	tca	aaa		1152
Ser	Phe	His	Cys	Ile	Tyr	Lys	Lys	Glu	Asn	Lys	Ile	Val	Pro	Ser	Lys		
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gag	att	gtt	tgg	tgg	atg	aat	tta	gct	gag	aaa	att	cct	caa	agc	cag		1200
Glu	Ile	Val	Trp	Trp	Met	Asn	Leu	Ala	Glu	Lys	Ile	Pro	Gln	Ser	Gln		
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tat	gat	gtt	gtg	agt	gat	cat	gtt	agc	aaa	gtt	act	ttt	ttc	aat	ctg		1248
Tyr	Asp	Val	Val	Ser	Asp	His	Val	Ser	Lys	Val	Thr	Phe	Phe	Asn	Leu		
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aat	gaa	acc	aaa	cct	cga	gga	aag	ttt	acc	tat	gat	gca	gtg	tac	tgc		1296
Asn	Glu	Thr	Lys	Pro	Arg	Gly	Lys	Phe	Thr	Tyr	Asp	Ala	Val	Tyr	Cys		
			420					425					430				
tgc	aat	gaa	cat	gaa	tgc	cat	cat	cgc	tat	gct	gaa	tta	tat	gtg	att		1344
Cys	Asn	Glu	His	Glu	Cys	His	His	Arg	Tyr	Ala	Glu	Leu	Tyr	Val	Ile		
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gat	gtc	aat	atc	aat	atc	tca	tgt	gaa	act	gat	ggg	tac	tta	act	aaa		1392
Asp	Val	Asn	Ile	Asn	Ile	Ser	Cys	Glu	Thr	Asp	Gly	Tyr	Leu	Thr	Lys		
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Met	Thr	Cys	Arg	Trp	Ser	Thr	Ser	Thr	Ile	Gln	Ser	Leu	Ala	Glu	Ser		
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Thr	Leu	Gln	Leu	Arg	Tyr	His	Arg	Ser	Ser	Leu	Tyr	Cys	Ser	Asp	Ile		
				485					490					495			
cca	tct	att	cat	ccc	ata	tct	gag	ccc	aaa	gat	tgc	tat	ttg	cag	agt		1536
Pro	Ser	Ile	His	Pro	Ile	Ser	Glu	Pro	Lys	Asp	Cys	Tyr	Leu	Gln	Ser		
			500					505					510				
gat	ggt	ttt	tat	gaa	tgc	att	ttc	cag	cca	atc	ttc	cta	tta	tct	ggc		1584
Asp	Gly	Phe	Tyr	Glu	Cys	Ile	Phe	Gln	Pro	Ile	Phe	Leu	Leu	Ser	Gly		
		515					520					525					
tac	aca	atg	tgg	att	agg	atc	aat	cac	tct	cta	ggt	tca	ctt	gac	tct		1632
Tyr	Thr	Met	Trp	Ile	Arg	Ile	Asn	His	Ser	Leu	Gly	Ser	Leu	Asp	Ser		
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cca	cca	aca	tgt	gtc	ctt	cct	gat	tct	gtg	gtg	aag	cca	ctg	cct	cca		1680

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Pro 545	Pro	Thr	Cys	Val	Leu 550	Pro	Asp	Ser	Val	Val 555	Lys	Pro	Leu	Pro	Pro 560	
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tct Ser	tgg Trp	gaa Glu	aag Lys 580	cca Pro	gtc Val	ttt Phe	cca Pro	gag Glu 585	aat Asn	aac Asn	ctt Leu	caa Gln	ttc Phe 590	cag Gln	att Ile	1776
cgc Arg	tat Tyr	ggt Gly 595	tta Leu	agt Ser	gga Gly	aaa Lys	gaa Glu 600	gta Val	caa Gln	tgg Trp	aag Lys	atg Met 605	tat Tyr	gag Glu	gtt Val	1824
tat Tyr	gat Asp 610	gca Ala	aaa Lys	tca Ser	aaa Lys	tct Ser 615	gtc Val	agt Ser	ctc Leu	cca Pro	gtt Val 620	cca Pro	gac Asp	ttg Leu	tgt Cys	1872
gca Ala 625	gtc Val	tat Tyr	gct Ala	gtt Val	cag Gln 630	gtg Val	cgc Arg	tgt Cys	aag Lys	agg Arg 635	cta Leu	gat Asp	gga Gly	ctg Leu	gga Gly 640	1920
tat Tyr	tgg Trp	agt Ser	aat Asn	tgg Trp 645	agc Ser	aat Asn	cca Pro	gcc Ala	tac Tyr 650	aca Thr	gtt Val	gtc Val	atg Met	gat Asp 655	ata Ile	1968
aaa Lys	gtt Val	cct Pro	atg Met 660	aga Arg	gga Gly	cct Pro	gaa Glu	ttt Phe 665	tgg Trp	aga Arg	ata Ile	att Ile	aat Asn 670	gga Gly	gat Asp	2016
act Thr	atg Met	aaa Lys 675	aag Lys	gag Glu	aaa Lys	aat Asn	gtc Val 680	act Thr	tta Leu	ctt Leu	tgg Trp	aag Lys 685	ccc Pro	ctg Leu	atg Met	2064
aaa Lys	aat Asn 690	gac Asp	tca Ser	ttg Leu	tgc Cys	agt Ser 695	gtt Val	cag Gln	aga Arg	tat Tyr	gtg Val 700	ata Ile	aac Asn	cat His	cat His	2112
act Thr 705	tcc Ser	tgc Cys	aat Asn	gga Gly	aca Thr 710	tgg Trp	tca Ser	gaa Glu	gat Asp	gtg Val 715	gga Gly	aat Asn	cac His	acg Thr	aaa Lys 720	2160
ttc Phe	act Thr	ttc Phe	ctg Leu	tgg Trp 725	aca Thr	gag Glu	caa Gln	gca Ala	cat His 730	act Thr	gtt Val	acg Thr	gtt Val	ctg Leu 735	gcc Ala	2208
atc Ile	aat Asn	tca Ser	att Ile 740	ggt Gly	gct Ala	tct Ser	gtt Val	gca Ala 745	aat Asn	ttt Phe	aat Asn	tta Leu	acc Thr 750	ttt Phe	tca Ser	2256
tgg Trp	cct Pro	atg Met 755	agc Ser	aaa Lys	gta Val	aat Asn	atc Ile 760	gtg Val	cag Gln	tca Ser	ctc Leu	agt Ser 765	gct Ala	tat Tyr	cct Pro	2304
tta Leu	aac Asn 770	agc Ser	agt Ser	tgt Cys	gtg Val	att Ile 775	gtt Val	tcc Ser	tgg Trp	ata Ile	cta Leu 780	tca Ser	ccc Pro	agt Ser	gat Asp	2352
tac Tyr 785	aag Lys	cta Leu	atg Met	tat Tyr	ttt Phe 790	att Ile	att Ile	gag Glu	tgg Trp	aaa Lys 795	aat Asn	ctt Leu	aat Asn	gaa Glu	gat Asp 800	2400

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ggt gaa ata aaa tgg ctt aga atc tct tca tct gtt aag aag tat tat Gly Glu Ile Lys Trp Leu Arg Ile Ser Ser Ser Val Lys Lys Tyr Tyr 805 810 815	2448
atc cat gat cat ttt atc ccc att gag aag tac cag ttc agt ctt tac Ile His Asp His Phe Ile Pro Ile Glu Lys Tyr Gln Phe Ser Leu Tyr 820 825 830	2496
cca ata ttt atg gaa gga gtg gga aaa cca aag ata att aat agt ttc Pro Ile Phe Met Glu Gly Val Gly Lys Pro Lys Ile Ile Asn Ser Phe 835 840 845	2544
act caa gat gat att gaa aaa cac cag agt gat gca ggt tta tat gta Thr Gln Asp Asp Ile Glu Lys His Gln Ser Asp Ala Gly Leu Tyr Val 850 855 860	2592
att gtg cca gta att att tcc tct tcc atc tta ttg ctt gga aca tta Ile Val Pro Val Ile Ile Ser Ser Ser Ile Leu Leu Leu Gly Thr Leu 865 870 875 880	2640
tta ata tca cac caa aga atg aaa aag cta ttt tgg gaa gat gtt ccg Leu Ile Ser His Gln Arg Met Lys Lys Leu Phe Trp Glu Asp Val Pro 885 890 895	2688
aac ccc aag aat tgt tcc tgg gca caa gga ctt aat ttt cag aag aga Asn Pro Lys Asn Cys Ser Trp Ala Gln Gly Leu Asn Phe Gln Lys Arg 900 905 910	2736
acg gac att ctg gat cca ccg gtc gcc acc atg gtg agc aag ggc gag Thr Asp Ile Leu Asp Pro Pro Val Ala Thr Met Val Ser Lys Gly Glu 915 920 925	2784
gag ctg ttc acc ggg gtg gtg ccc atc ctg gtc gag ctg gac ggc gag Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val Glu Leu Asp Gly Asp 930 935 940	2832
gta aac ggc cac aag ttc agc gtg tcc ggc gag ggc gag ggc gat gcc Val Asn Gly His Lys Phe Ser Val Ser Gly Glu Gly Glu Gly Asp Ala 945 950 955 960	2880
acc tac ggc aag ctg acc ctg aag ttc atc tgc acc acc ggc aag ctg Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys Thr Thr Gly Lys Leu 965 970 975	2928
ccc gtg ccc tgg ccc acc ctc gtg acc acc ttc ggc tac ggc gtg cag Pro Val Pro Trp Pro Thr Leu Val Thr Thr Phe Gly Tyr Gly Val Gln 980 985 990	2976
tgc ttc gcc cgc tac ccc gac cac atg cgc cag cac gac ttc ttc aag Cys Phe Ala Arg Tyr Pro Asp His Met Arg Gln His Asp Phe Phe Lys 995 1000 1005	3024
tcc gcc atg ccc gaa ggc tac gtc cag gag cgc acc atc ttc ttc Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg Thr Ile Phe Phe 1010 1015 1020	3069
aag gac gac ggc aac tac aag acc cgc gcc gag gtg aag ttc gag Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val Lys Phe Glu 1025 1030 1035	3114
ggc gac acc ctg gtg aac cgc atc gag ctg aag ggc atc gac ttc Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile Asp Phe 1040 1045 1050	3159

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aag gag gac ggc aac atc ctg ggg cac aag ctg gag tac aac tac	3204
Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn Tyr	
1055 1060 1065	
aac agc cac aac gtc tat atc atg gcc gac aag cag aag aac ggc	3249
Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly	
1070 1075 1080	
atc aag gtg aac ttc aag atc cgc cac aac atc gag gac ggc agc	3294
Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser	
1085 1090 1095	
gtg cag ctc gcc gac cac tac cag cag aac acc ccc atc ggc gac	3339
Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp	
1100 1105 1110	
ggc ccc gtg ctg ctg ccc gac aac cac tac ctg agc tac cag tcc	3384
Gly Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Tyr Gln Ser	
1115 1120 1125	
gcc ctg agc aaa gac ccc aac gag aag cgc gat cac atg gtc ctg	3429
Ala Leu Ser Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu	
1130 1135 1140	
ctg gag ttc gtg acc gcc gcc ggg atc act ctc ggc atg gac gag	3474
Leu Glu Phe Val Thr Ala Ala Gly Ile Thr Leu Gly Met Asp Glu	
1145 1150 1155	
ctg tac aag taa	3486
Leu Tyr Lys	
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<212> PRT

<213> Artificial Sequence

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<221> misc_feature

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Leu Leu Met Leu Phe His Leu Gly Leu Gln Ala Ser Ile Ser Ala Arg
20 25 30

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Gln Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Thr Arg Tyr Pro Ile
35 40 45

Thr Pro Trp Arg Phe Lys Leu Ser Cys Met Pro Pro Asn Ser Thr Tyr
50 55 60

Asp Tyr Phe Leu Leu Pro Ala Gly Leu Ser Lys Asn Thr Ser Asn Ser
65 70 75 80

Asn Gly His Tyr Glu Thr Ala Val Glu Pro Lys Phe Asn Ser Ser Gly
85 90 95

Thr His Phe Ser Asn Leu Ser Lys Thr Thr Phe His Cys Cys Phe Arg
100 105 110

Ser Glu Gln Asp Arg Asn Cys Ser Leu Cys Ala Asp Asn Ile Glu Gly
115 120 125

Thr Thr Phe Val Ser Thr Val Asn Ser Leu Val Phe Gln Gln Ile Asp
130 135 140

Ala Asn Trp Asn Ile Gln Cys Trp Leu Lys Gly Asp Leu Lys Leu Phe
145 150 155 160

Ile Cys Tyr Val Glu Ser Leu Phe Lys Asn Leu Phe Arg Asn Tyr Asn
165 170 175

Tyr Lys Val His Leu Leu Tyr Val Leu Pro Glu Val Leu Glu Asp Ser
180 185 190

Pro Leu Val Pro Gln Lys Gly Ser Phe Gln Met Val His Cys Asn Cys
195 200 205

Ser Val His Glu Cys Cys Glu Cys Leu Val Pro Val Pro Thr Ala Lys
210 215 220

Leu Asn Asp Thr Leu Leu Met Cys Leu Lys Ile Thr Ser Gly Gly Val
225 230 235 240

Ile Phe Arg Ser Pro Leu Met Ser Val Gln Pro Ile Asn Met Val Lys
245 250 255

Pro Asp Pro Pro Leu Gly Leu His Met Glu Ile Thr Asp Asp Gly Asn
260 265 270

Leu Lys Ile Ser Trp Ser Ser Pro Pro Leu Val Pro Phe Pro Leu Gln
275 280 285

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Tyr Gln Val Lys Tyr Ser Glu Asn Ser Thr Thr Val Ile Arg Glu Ala
 290 295 300
 Asp Lys Ile Val Ser Ala Thr Ser Leu Leu Val Asp Ser Ile Leu Pro
 305 310 315 320
 Gly Ser Ser Tyr Glu Val Gln Val Arg Gly Lys Arg Leu Asp Gly Pro
 325 330 335
 Gly Ile Trp Ser Asp Trp Ser Thr Pro Arg Val Phe Thr Thr Gln Asp
 340 345 350
 Val Ile Tyr Phe Pro Pro Lys Ile Leu Thr Ser Val Gly Ser Asn Val
 355 360 365
 Ser Phe His Cys Ile Tyr Lys Lys Glu Asn Lys Ile Val Pro Ser Lys
 370 375 380
 Glu Ile Val Trp Trp Met Asn Leu Ala Glu Lys Ile Pro Gln Ser Gln
 385 390 395 400
 Tyr Asp Val Val Ser Asp His Val Ser Lys Val Thr Phe Phe Asn Leu
 405 410 415
 Asn Glu Thr Lys Pro Arg Gly Lys Phe Thr Tyr Asp Ala Val Tyr Cys
 420 425 430
 Cys Asn Glu His Glu Cys His His Arg Tyr Ala Glu Leu Tyr Val Ile
 435 440 445
 Asp Val Asn Ile Asn Ile Ser Cys Glu Thr Asp Gly Tyr Leu Thr Lys
 450 455 460
 Met Thr Cys Arg Trp Ser Thr Ser Thr Ile Gln Ser Leu Ala Glu Ser
 465 470 475 480
 Thr Leu Gln Leu Arg Tyr His Arg Ser Ser Leu Tyr Cys Ser Asp Ile
 485 490 495
 Pro Ser Ile His Pro Ile Ser Glu Pro Lys Asp Cys Tyr Leu Gln Ser
 500 505 510
 Asp Gly Phe Tyr Glu Cys Ile Phe Gln Pro Ile Phe Leu Leu Ser Gly
 515 520 525
 Tyr Thr Met Trp Ile Arg Ile Asn His Ser Leu Gly Ser Leu Asp Ser
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530

535

540

Pro Pro Thr Cys Val Leu Pro Asp Ser Val Val Lys Pro Leu Pro Pro
545 550 555 560

Ser Ser Val Lys Ala Glu Ile Thr Ile Asn Ile Gly Leu Leu Lys Ile
565 570 575

Ser Trp Glu Lys Pro Val Phe Pro Glu Asn Asn Leu Gln Phe Gln Ile
580 585 590

Arg Tyr Gly Leu Ser Gly Lys Glu Val Gln Trp Lys Met Tyr Glu Val
595 600 605

Tyr Asp Ala Lys Ser Lys Ser Val Ser Leu Pro Val Pro Asp Leu Cys
610 615 620

Ala Val Tyr Ala Val Gln Val Arg Cys Lys Arg Leu Asp Gly Leu Gly
625 630 635 640

Tyr Trp Ser Asn Trp Ser Asn Pro Ala Tyr Thr Val Val Met Asp Ile
645 650 655

Lys Val Pro Met Arg Gly Pro Glu Phe Trp Arg Ile Ile Asn Gly Asp
660 665 670

Thr Met Lys Lys Glu Lys Asn Val Thr Leu Leu Trp Lys Pro Leu Met
675 680 685

Lys Asn Asp Ser Leu Cys Ser Val Gln Arg Tyr Val Ile Asn His His
690 695 700

Thr Ser Cys Asn Gly Thr Trp Ser Glu Asp Val Gly Asn His Thr Lys
705 710 715 720

Phe Thr Phe Leu Trp Thr Glu Gln Ala His Thr Val Thr Val Leu Ala
725 730 735

Ile Asn Ser Ile Gly Ala Ser Val Ala Asn Phe Asn Leu Thr Phe Ser
740 745 750

Trp Pro Met Ser Lys Val Asn Ile Val Gln Ser Leu Ser Ala Tyr Pro
755 760 765

Leu Asn Ser Ser Cys Val Ile Val Ser Trp Ile Leu Ser Pro Ser Asp
770 775 780

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Tyr Lys Leu Met Tyr Phe Ile Ile Glu Trp Lys Asn Leu Asn Glu Asp
785 790 795 800

Gly Glu Ile Lys Trp Leu Arg Ile Ser Ser Ser Val Lys Lys Tyr Tyr
805 810 815

Ile His Asp His Phe Ile Pro Ile Glu Lys Tyr Gln Phe Ser Leu Tyr
820 825 830

Pro Ile Phe Met Glu Gly Val Gly Lys Pro Lys Ile Ile Asn Ser Phe
835 840 845

Thr Gln Asp Asp Ile Glu Lys His Gln Ser Asp Ala Gly Leu Tyr Val
850 855 860

Ile Val Pro Val Ile Ile Ser Ser Ser Ile Leu Leu Leu Gly Thr Leu
865 870 875 880

Leu Ile Ser His Gln Arg Met Lys Lys Leu Phe Trp Glu Asp Val Pro
885 890 895

Asn Pro Lys Asn Cys Ser Trp Ala Gln Gly Leu Asn Phe Gln Lys Arg
900 905 910

Thr Asp Ile Leu Asp Pro Pro Val Ala Thr Met Val Ser Lys Gly Glu
915 920 925

Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val Glu Leu Asp Gly Asp
930 935 940

Val Asn Gly His Lys Phe Ser Val Ser Gly Glu Gly Glu Gly Asp Ala
945 950 955 960

Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys Thr Thr Gly Lys Leu
965 970 975

Pro Val Pro Trp Pro Thr Leu Val Thr Thr Phe Gly Tyr Gly Val Gln
980 985 990

Cys Phe Ala Arg Tyr Pro Asp His Met Arg Gln His Asp Phe Phe Lys
995 1000 1005

Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg Thr Ile Phe Phe
1010 1015 1020

Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val Lys Phe Glu
1025 1030 1035

Serial No 10-774,721.txt

Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile Asp Phe
 1040 1045 1050
 Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn Tyr
 1055 1060 1065
 Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly
 1070 1075 1080
 Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser
 1085 1090 1095
 Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp
 1100 1105 1110
 Gly Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Tyr Gln Ser
 1115 1120 1125
 Ala Leu Ser Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu
 1130 1135 1140
 Leu Glu Phe Val Thr Ala Ala Gly Ile Thr Leu Gly Met Asp Glu
 1145 1150 1155
 Leu Tyr Lys
 1160

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 Met Ala Gly Ile Lys Ala Leu Ile Ser Leu Ser Phe Gly Gly Ala Ile
 1 5 10 15
 gga ctg atg ttt ttg atg ctt gga tgt gcc ctt cca ata tac aac aaa 96
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Gly	Leu	Met	Phe	Leu	Met	Leu	Gly	Cys	Ala	Leu	Pro	Ile	Tyr	Asn	Lys	
			20					25					30			
tac	tgg	ccc	ctc	ttt	gtt	cta	ttt	ttt	tac	atc	ctt	tca	cct	att	cca	144
Tyr	Trp	Pro	Leu	Phe	Val	Leu	Phe	Phe	Tyr	Ile	Leu	Ser	Pro	Ile	Pro	
		35					40					45				
tac	tgc	ata	gca	aga	aga	tta	gtg	gat	gat	aca	gat	gct	atg	agt	aac	192
Tyr	Cys	Ile	Ala	Arg	Arg	Leu	Val	Asp	Asp	Thr	Asp	Ala	Met	Ser	Asn	
	50					55					60					
gct	tgt	aag	gaa	ctt	gcc	atc	ttt	ctt	aca	acg	ggc	att	gtc	gtg	tca	240
Ala	Cys	Lys	Glu	Leu	Ala	Ile	Phe	Leu	Thr	Thr	Gly	Ile	Val	Val	Ser	
65					70				75						80	
gct	ttt	gga	ctc	cct	att	gta	ttt	gcc	aga	gca	cat	ctg	att	gag	tgg	288
Ala	Phe	Gly	Leu	Pro	Ile	Val	Phe	Ala	Arg	Ala	His	Leu	Ile	Glu	Trp	
				85					90					95		
gga	gct	tgt	gca	ctt	gtt	ctc	aca	gga	aac	aca	gtc	atc	ttt	gca	act	336
Gly	Ala	Cys	Ala	Leu	Val	Leu	Thr	Gly	Asn	Thr	Val	Ile	Phe	Ala	Thr	
			100					105					110			
ata	cta	ggc	ttt	ttc	ttg	gtc	ttt	gga	agc	aat	gac	gac	ttc	agc	tgg	384
Ile	Leu	Gly	Phe	Phe	Leu	Val	Phe	Gly	Ser	Asn	Asp	Asp	Phe	Ser	Trp	
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cag	cag	tgg	tga													396
Gln	Gln	Trp														
		130														

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<211> 131

<212> PRT

<213> Homo sapiens

<400> 16

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Gly	Leu	Met	Phe	Leu	Met	Leu	Gly	Cys	Ala	Leu	Pro	Ile	Tyr	Asn	Lys	
			20					25					30			
Tyr	Trp	Pro	Leu	Phe	Val	Leu	Phe	Phe	Tyr	Ile	Leu	Ser	Pro	Ile	Pro	
		35					40					45				
Tyr	Cys	Ile	Ala	Arg	Arg	Leu	Val	Asp	Asp	Thr	Asp	Ala	Met	Ser	Asn	
	50					55					60					
Ala	Cys	Lys	Glu	Leu	Ala	Ile	Phe	Leu	Thr	Thr	Gly	Ile	Val	Val	Ser	
65					70				75						80	

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Ala Phe Gly Leu Pro Ile Val Phe Ala Arg Ala His Leu Ile Glu Trp
85 90 95

Gly Ala Cys Ala Leu Val Leu Thr Gly Asn Thr Val Ile Phe Ala Thr
100 105 110

Ile Leu Gly Phe Phe Leu Val Phe Gly Ser Asn Asp Asp Phe Ser Trp
115 120 125

Gln Gln Trp
130

<210> 17

<211> 1359

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> MY47 LUC

<220>

<221> CDS

<222> (1)..(1359)

<223>

<400> 17

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Met Ala Gly Ile Lys Ala Leu Ile Ser Leu Ser Phe Gly Gly Ala Ile
1 5 10 15

gga ctg atg ttt ttg atg ctt gga tgt gcc ctt cca ata tac aac aaa 96
Gly Leu Met Phe Leu Met Leu Gly Cys Ala Leu Pro Ile Tyr Asn Lys
20 25 30

tac tgg ccc ctc ttt gtt cta ttt ttt tac atc ctt tca cct att cca 144
Tyr Trp Pro Leu Phe Val Leu Phe Phe Tyr Ile Leu Ser Pro Ile Pro
35 40 45

tac tgc ata gca aga aga tta gtg gat gat aca gat gct atg agt aac 192
Tyr Cys Ile Ala Arg Arg Leu Val Asp Asp Thr Asp Ala Met Ser Asn
50 55 60

gct tgt aag gaa ctt gcc atc ttt ctt aca acg ggc att gtc gtg tca 240
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Ala 65	Cys	Lys	Glu	Leu	Ala 70	Ile	Phe	Leu	Thr	Thr 75	Gly	Ile	Val	Val	Ser 80	
gct Ala	ttt Phe	gga Gly	ctc Leu	cct Pro 85	att Ile	gta Val	ttt Phe	gcc Ala 90	aga Arg	gca Ala	cat His	ctg Leu	att Ile	gag Glu 95	tgg Trp	288
gga Gly	gct Ala	tgt Cys	gca Ala 100	ctt Leu	gtt Val	ctc Leu	aca Thr	gga Gly 105	aac Asn	aca Thr	gtc Val	atc Ile	ttt Phe 110	gca Ala	act Thr	336
ata Ile	cta Leu	ggc Gly 115	ttt Phe	ttc Phe	ttg Leu	gtc Val	ttt Phe 120	gga Gly	agc Ser	aat Asn	gac Asp	gac Asp 125	ttc Phe	agc Ser	tgg Trp	384
cag Gln	cag Gln 130	tgg Trp	cga Arg	ccg Pro	gtg Val	gat Asp 135	cca Pro	ccg Pro	gct Ala	aga Arg	gcc Ala 140	acc Thr	atg Met	acc Thr	agc Ser	432
aag Lys 145	gtg Val	tac Tyr	gac Asp	ccc Pro	gag Glu 150	cag Gln	agg Arg	aag Lys	agg Arg	atg Met 155	atc Ile	acc Thr	ggc Gly	ccc Pro	cag Gln 160	480
tgg Trp	tgg Trp	gcc Ala	agg Arg	tgc Cys 165	aag Lys	cag Gln	atg Met	aac Asn	gtg Val 170	ctg Leu	gac Asp	agc Ser	ttc Phe	atc Ile 175	aac Asn	528
tac Tyr	tac Tyr	gac Asp 180	agc Ser	gag Glu	aag Lys	cac His	gcc Ala 185	gag Glu	aac Asn	gcc Ala	gtg Val	atc Ile	ttc Phe 190	ctg Leu	cac His	576
ggc Gly	aac Asn	gcc Ala 195	gct Ala	agc Ser	agc Ser	tac Tyr	ctg Leu 200	tgg Trp	agg Arg	cac His	gtg Val	gtg Val 205	ccc Pro	cac His	atc Ile	624
gag Glu	ccc Pro 210	gtg Val	gcc Ala	agg Arg	tgc Cys	atc Ile 215	atc Ile	ccc Pro	gat Asp	ctg Leu	atc Ile 220	ggc Gly	atg Met	ggc Gly	aag Lys	672
agc Ser 225	ggc Gly	aag Lys	agc Ser	ggc Gly	aac Asn 230	ggc Gly	agc Ser	tac Tyr	agg Arg	ctg Leu 235	ctg Leu	gac Asp	cac His	tac Tyr	aag Lys 240	720
tac Tyr	ctg Leu	acc Thr	gcc Ala	tgg Trp 245	ttc Phe	gag Glu	ctc Leu	ctg Leu	aac Asn 250	ctg Leu	ccc Pro	aag Lys	aag Lys	atc Ile 255	atc Ile	768
ttc Phe	gtg Val	ggc Gly	cac His 260	gac Asp	tgg Trp	ggc Gly	gcc Ala 265	tgc Cys	ctg Leu	gcc Ala	ttc Phe	cac His	tac Tyr 270	agc Ser	tac Tyr	816
gag Glu	cac His	cag Gln 275	gac Asp	aag Lys	atc Ile	aag Lys	gcc Ala 280	atc Ile	gtg Val	cac His	gcc Ala	gag Glu 285	agc Ser	gtg Val	gtg Val	864
gac Asp 290	gtg Val	atc Ile	gag Glu	agc Ser	tgg Trp	gac Asp 295	gag Glu	tgg Trp	cca Pro	gac Asp	atc Ile 300	gag Glu	gag Glu	gac Asp	atc Ile	912
gcc Ala 305	ctg Leu	atc Ile	aag Lys	agc Ser	gag Glu 310	gag Glu	ggc Gly	gag Glu	aag Lys	atg Met 315	gtg Val	ctg Leu	gag Glu	aac Asn	aac Asn 320	960

Serial No 10-774,721.txt

ttc ttc gtg gag acc atg ctg ccc agc aag atc atg aga aag ctg gag Phe Phe Val Glu Thr Met Leu Pro Ser Lys Ile Met Arg Lys Leu Glu 325 330 335	1008
ccc gag gag ttc gcc gcc tac ctg gag ccc ttc aag gag aag ggc gag Pro Glu Glu Phe Ala Ala Tyr Leu Glu Pro Phe Lys Glu Lys Gly Glu 340 345 350	1056
gtg aga aga ccc acc ctg agc tgg ccc aga gag atc ccc ctg gtg aag Val Arg Arg Pro Thr Leu Ser Trp Pro Arg Glu Ile Pro Leu Val Lys 355 360 365	1104
ggc ggc aag ccc gac gtg gtg cag atc gtg aga aac tac aac gcc tac Gly Gly Lys Pro Asp Val Val Gln Ile Val Arg Asn Tyr Asn Ala Tyr 370 375 380	1152
ctg aga gcc agc gac gac ctg ccc aag atg ttc atc gag agc gac ccc Leu Arg Ala Ser Asp Asp Leu Pro Lys Met Phe Ile Glu Ser Asp Pro 385 390 400	1200
ggc ttc ttc agc aac gcc atc gtg gag ggc gcc aag aag ttc ccc aac Gly Phe Phe Ser Asn Ala Ile Val Glu Gly Ala Lys Lys Phe Pro Asn 405 410 415	1248
acc gag ttc gtg aag gtg aag ggc ctg cac ttc agc cag gag gac gcc Thr Glu Phe Val Lys Val Lys Gly Leu His Phe Ser Gln Glu Asp Ala 420 425 430	1296
ccc gac gag atg ggc aag tac atc aag agc ttc gtg gag aga gtg ctg Pro Asp Glu Met Gly Lys Tyr Ile Lys Ser Phe Val Glu Arg Val Leu 435 440 445	1344
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<210> 18

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<212> PRT

<213> Homo sapiens

<220>

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<223> MY47 LUC

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Gly Leu Met Phe Leu Met Leu Gly Cys Ala Leu Pro Ile Tyr Asn Lys
20 25 30

Tyr Trp Pro Leu Phe Val Leu Phe Phe Tyr Ile Leu Ser Pro Ile Pro
35 40 45

Tyr Cys Ile Ala Arg Arg Leu Val Asp Asp Thr Asp Ala Met Ser Asn
50 55 60

Ala Cys Lys Glu Leu Ala Ile Phe Leu Thr Thr Gly Ile Val Val Ser
65 70 75 80

Ala Phe Gly Leu Pro Ile Val Phe Ala Arg Ala His Leu Ile Glu Trp
85 90 95

Gly Ala Cys Ala Leu Val Leu Thr Gly Asn Thr Val Ile Phe Ala Thr
100 105 110

Ile Leu Gly Phe Phe Leu Val Phe Gly Ser Asn Asp Asp Phe Ser Trp
115 120 125

Gln Gln Trp Arg Pro Val Asp Pro Pro Ala Arg Ala Thr Met Thr Ser
130 135 140

Lys Val Tyr Asp Pro Glu Gln Arg Lys Arg Met Ile Thr Gly Pro Gln
145 150 155 160

Trp Trp Ala Arg Cys Lys Gln Met Asn Val Leu Asp Ser Phe Ile Asn
165 170 175

Tyr Tyr Asp Ser Glu Lys His Ala Glu Asn Ala Val Ile Phe Leu His
180 185 190

Gly Asn Ala Ala Ser Ser Tyr Leu Trp Arg His Val Val Pro His Ile
195 200 205

Glu Pro Val Ala Arg Cys Ile Ile Pro Asp Leu Ile Gly Met Gly Lys
210 215 220

Ser Gly Lys Ser Gly Asn Gly Ser Tyr Arg Leu Leu Asp His Tyr Lys
225 230 235 240

Tyr Leu Thr Ala Trp Phe Glu Leu Leu Asn Leu Pro Lys Lys Ile Ile
245 250 255

Phe Val Gly His Asp Trp Gly Ala Cys Leu Ala Phe His Tyr Ser Tyr
260 265 270

Glu His Gln Asp Lys Ile Lys Ala Ile Val His Ala Glu Ser Val Val
275 280 285

Serial No 10-774,721.txt

Asp Val Ile Glu Ser Trp Asp Glu Trp Pro Asp Ile Glu Glu Asp Ile
290 295 300

Ala Leu Ile Lys Ser Glu Glu Gly Glu Lys Met Val Leu Glu Asn Asn
305 310 315 320

Phe Phe Val Glu Thr Met Leu Pro Ser Lys Ile Met Arg Lys Leu Glu
325 330 335

Pro Glu Glu Phe Ala Ala Tyr Leu Glu Pro Phe Lys Glu Lys Gly Glu
340 345 350

Val Arg Arg Pro Thr Leu Ser Trp Pro Arg Glu Ile Pro Leu Val Lys
355 360 365

Gly Gly Lys Pro Asp Val Val Gln Ile Val Arg Asn Tyr Asn Ala Tyr
370 375 380

Leu Arg Ala Ser Asp Asp Leu Pro Lys Met Phe Ile Glu Ser Asp Pro
385 390 395 400

Gly Phe Phe Ser Asn Ala Ile Val Glu Gly Ala Lys Lys Phe Pro Asn
405 410 415

Thr Glu Phe Val Lys Val Lys Gly Leu His Phe Ser Gln Glu Asp Ala
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Lys Asn Glu Gln
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<210> 19

<211> 1140

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Gly Leu Met Phe Leu Met Leu Gly Cys Ala Leu Pro Ile Tyr Asn Lys	
20 25 30	
tac tgg ccc ctc ttt gtt cta ttt ttt tac atc ctt tca cct att cca	144
Tyr Trp Pro Leu Phe Val Leu Phe Phe Tyr Ile Leu Ser Pro Ile Pro	
35 40 45	
tac tgc ata gca aga aga tta gtg gat gat aca gat gct atg agt aac	192
Tyr Cys Ile Ala Arg Arg Leu Val Asp Asp Thr Asp Ala Met Ser Asn	
50 55 60	
gct tgt aag gaa ctt gcc atc ttt ctt aca acg ggc att gtc gtg tca	240
Ala Cys Lys Glu Leu Ala Ile Phe Leu Thr Thr Gly Ile Val Val Ser	
65 70 75 80	
gct ttt gga ctc cct att gta ttt gcc aga gca cat ctg att gag tgg	288
Ala Phe Gly Leu Pro Ile Val Phe Ala Arg Ala His Leu Ile Glu Trp	
85 90 95	
gga gct tgt gca ctt gtt ctc aca gga aac aca gtc atc ttt gca act	336
Gly Ala Cys Ala Leu Val Leu Thr Gly Asn Thr Val Ile Phe Ala Thr	
100 105 110	
ata cta ggc ttt ttc ttg gtc ttt gga agc aat gac gac ttc agc tgg	384
Ile Leu Gly Phe Phe Leu Val Phe Gly Ser Asn Asp Asp Phe Ser Trp	
115 120 125	
cag cag tgg cga ccg gtg gat cca ccg gtc gcc acc atg gtg agc aag	432
Gln Gln Trp Arg Pro Val Asp Pro Pro Val Ala Thr Met Val Ser Lys	
130 135 140	
ggc gag gag ctg ttc acc ggg gtg gtg ccc atc ctg gtc gag ctg gac	480
Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val Glu Leu Asp	
145 150 155 160	
ggc gac gta aac ggc cac aag ttc agc gtg tcc ggc gag ggc gag ggc	528
Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly Glu Gly Glu Gly	
165 170 175	
gat gcc acc tac ggc aag ctg acc ctg aag ttc atc tgc acc acc ggc	576
Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys Thr Thr Gly	
180 185 190	

Serial No 10-774,721.txt

aag ctg ccc gtg ccc tgg ccc acc ctc gtg acc acc ttc ggc tac ggc Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Phe Gly Tyr Gly	624
gtg cag tgc ttc gcc cgc tac ccc gac cac atg cgc cag cac gac ttc Val Gln Cys Phe Ala Arg Tyr Pro Asp His Met Arg Gln His Asp Phe	672
ttc aag tcc gcc atg ccc gaa ggc tac gtc cag gag cgc acc atc ttc Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg Thr Ile Phe	720
ttc aag gac gac ggc aac tac aag acc cgc gcc gag gtg aag ttc gag Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val Lys Phe Glu	768
ggc gac acc ctg gtg aac cgc atc gag ctg aag ggc atc gac ttc aag Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile Asp Phe Lys	816
gag gac ggc aac atc ctg ggg cac aag ctg gag tac aac tac aac agc Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn Tyr Asn Ser	864
cac aac gtc tat atc atg gcc gac aag cag aag aac ggc atc aag gtg His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly Ile Lys Val	912
aac ttc aag atc cgc cac aac atc gag gac ggc agc gtg cag ctc gcc Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser Val Gln Leu Ala	960
gac cac tac cag cag aac acc ccc atc ggc gac ggc ccc gtg ctg ctg Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro Val Leu Leu	1008
ccc gac aac cac tac ctg agc tac cag tcc gcc ctg agc aaa gac ccc Pro Asp Asn His Tyr Leu Ser Tyr Gln Ser Ala Leu Ser Lys Asp Pro	1056
aac gag aag cgc gat cac atg gtc ctg ctg gag ttc gtg acc gcc gcc Asn Glu Lys Arg Asp His Met Val Leu Leu Glu Phe Val Thr Ala Ala	1104
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<212> PRT

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<223> MY047 YFP

Serial No 10-774,721.txt

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Gly Leu Met Phe Leu Met Leu Gly Cys Ala Leu Pro Ile Tyr Asn Lys
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Tyr Trp Pro Leu Phe Val Leu Phe Phe Tyr Ile Leu Ser Pro Ile Pro
35 40 45

Tyr Cys Ile Ala Arg Arg Leu Val Asp Asp Thr Asp Ala Met Ser Asn
50 55 60

Ala Cys Lys Glu Leu Ala Ile Phe Leu Thr Thr Gly Ile Val Val Ser
65 70 75 80

Ala Phe Gly Leu Pro Ile Val Phe Ala Arg Ala His Leu Ile Glu Trp
85 90 95

Gly Ala Cys Ala Leu Val Leu Thr Gly Asn Thr Val Ile Phe Ala Thr
100 105 110

Ile Leu Gly Phe Phe Leu Val Phe Gly Ser Asn Asp Asp Phe Ser Trp
115 120 125

Gln Gln Trp Arg Pro Val Asp Pro Pro Val Ala Thr Met Val Ser Lys
130 135 140

Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val Glu Leu Asp
145 150 155 160

Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly Glu Gly Glu Gly
165 170 175

Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys Thr Thr Gly
180 185 190

Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Phe Gly Tyr Gly
195 200 205

Val Gln Cys Phe Ala Arg Tyr Pro Asp His Met Arg Gln His Asp Phe
210 215 220

Serial No 10-774,721.txt

Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg Thr Ile Phe
225 230 235 240

Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val Lys Phe Glu
245 250 255

Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile Asp Phe Lys
260 265 270

Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn Tyr Asn Ser
275 280 285

His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly Ile Lys Val
290 295 300

Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser Val Gln Leu Ala
305 310 315 320

Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro Val Leu Leu
325 330 335

Pro Asp Asn His Tyr Leu Ser Tyr Gln Ser Ala Leu Ser Lys Asp Pro
340 345 350

Asn Glu Lys Arg Asp His Met Val Leu Leu Glu Phe Val Thr Ala Ala
355 360 365

Gly Ile Thr Leu Gly Met Asp Glu Leu Tyr Lys
370 375

<210> 21

<211> 1114

<212> DNA

<213> Homo sapiens

<400> 21

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actgactttt cttatgctgg gatgtgcctt agaggattat ggcgtttact ggcccttatt 180

cgctctgatt ttccacgcca tctcccccatt ccccatcttc attgccaaaa gagtcaccta 240

tgactcagat gcaaccagta gtgcctgtcg ggaactggca tatttcttca ctactggaat 300

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Serial No 10-774,721.txt

agcctgcggc cttgtgttgg caggcaatgc agtcattttc cttacaattc aagggttttt	420
ccttatatattt ggaagaggag atgatttttag ctgggagcag tggtagcact ttattctgat	480
tacagtgcac tgaattttctt agaactcata ctatctgtat acatgtgcac atgcggcatt	540
ttactatgaa atttaatatg ctgggttttt taataccttt atatatcatg ttcactttta	600
gaaagacttc ataagtagga gatgagtttt attctcagca aatagacctg tcaaatttag	660
attatgttac tcaaattatg ttacttgttt ggctgttcat gtagtcacgg tgctctcaga	720
aaatatatta acgcagtctt gtaggcagct gccaccttat gcagtgcac gaaacctttt	780
gcttggggat gtgcttgagg aggagataa cgctgaagca ggcctctcat gaccaggaa	840
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gaccaggac attttgatga gatccaaagg agttgtatgc acatgaaagt ttgagaagca	1020
tcatcataga gaagtaaaca tcacaccaa cttccttatc tttccagtgg ctaaaccact	1080
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<223> AS01

<400> 22

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<210> 23

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<223> AS02

<400> 23

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<213> Artificial Sequence

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<223> AS03

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<210> 25

<211> 20

<212> DNA

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<223> AS04

<400> 25

agagctttaa cgcccgccat

20

<210> 26

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> AS05

<400> 26

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20

<210> 27

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<212> DNA

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Serial No 10-774,721.txt

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20

<210> 28

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> AS07

<400> 28

ccataatcct ctaaggcaca

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<210> 29

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<212> DNA

<213> Artificial Sequence

<220>

<223> AS08

<400> 29

cagtaaacgc cataatcctc

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<210> 30

<211> 20

<212> DNA

<213> Artificial Sequence

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<223> AS09

<400> 30

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Serial No 10-774,721.txt

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<223> AS10

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20

<210> 32

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<223> AS11

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<210> 33

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<223> AS12

<400> 33

aagaaatatg ccagttcccg

20

<210> 34

<211> 20

<212> DNA

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Serial No 10-774,721.txt

<220>

<223> AS13

<400> 34

cattgcctgc caacacaagg

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<210> 35

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> AS15

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<211> 22

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<223> AS16

<400> 36

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<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial

<400> 37

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21

Serial No 10-774,721.txt

<210> 38

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial

<400> 38

gccaguuccc gacaggcact t

21

<210> 39

<211> 38

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial

<400> 39

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38

<210> 40

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial

<400> 40

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40

<210> 41

<211> 35

<212> DNA

<213> Artificial Sequence

Serial No 10-774,721.txt

<220>

<223> Artificial

<400> 41

ccatctaggc caagcttata cgacgccgcc atctc

35

<210> 42

<211> 47

<212> DNA

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<223> Artificial

<400> 42

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47

<210> 43

<211> 14

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificial

<400> 43

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14

<210> 44

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

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<400> 44

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20

Serial No 10-774,721.txt

<210> 45
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<220>

<223> Artificial

<400> 45
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16

<210> 46
<211> 15
<212> DNA
<213> Artificial Sequence

<220>

<223> Artificial

<400> 46
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15

<210> 47
<211> 17
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<223> Artificial

<400> 47
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17

<210> 48
<211> 131
<212> PRT
<213> Homo sapiens

Serial No 10-774,721.txt

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Tyr Trp Pro Leu Phe Val Leu Phe Phe Tyr Ile Leu Ser Pro Ile Pro
35 40 45

Tyr Cys Ile Ala Arg Arg Leu Val Asp Asp Thr Asp Ala Met Ser Asn
50 55 60

Ala Cys Lys Glu Leu Ala Ile Phe Leu Thr Thr Gly Ile Val Val Ser
65 70 75 80

Ala Phe Gly Leu Pro Ile Val Phe Ala Arg Ala His Leu Ile Glu Trp
85 90 95

Gly Ala Cys Ala Leu Val Leu Thr Gly Asn Thr Val Ile Phe Ala Thr
100 105 110

Ile Leu Gly Phe Phe Leu Val Phe Gly Ser Lys Asp Asp Phe Ser Trp
115 120 125

Gln Gln Trp
130